US009027370B2

(12) **United States Patent**
Leibman et al.

(10) **Patent No.: US 9,027,370 B2**
(45) **Date of Patent: May 12, 2015**

(54) **FLUID ADDITIVE DISPENSER**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 74 days.

(21) Appl. No.: **13/490,939**

(22) Filed: **Jun. 7, 2012**

(65) **Prior Publication Data**

US 2013/0327101 A1 Dec. 12, 2013

(51) **Int. Cl.**

D06F 21/06	(2006.01)
D06F 23/04	(2006.01)
D06F 37/12	(2006.01)
D06F 37/24	(2006.01)
D06F 39/02	(2006.01)
D06F 71/10	(2006.01)

(52) **U.S. Cl.**

CPC ***D06F 39/022*** (2013.01); ***D06F 71/10*** (2013.01); ***D06F 23/04*** (2013.01); ***D06F 37/12*** (2013.01); ***D06F 37/24*** (2013.01); ***D06F 21/06*** (2013.01); ***D06F 39/02*** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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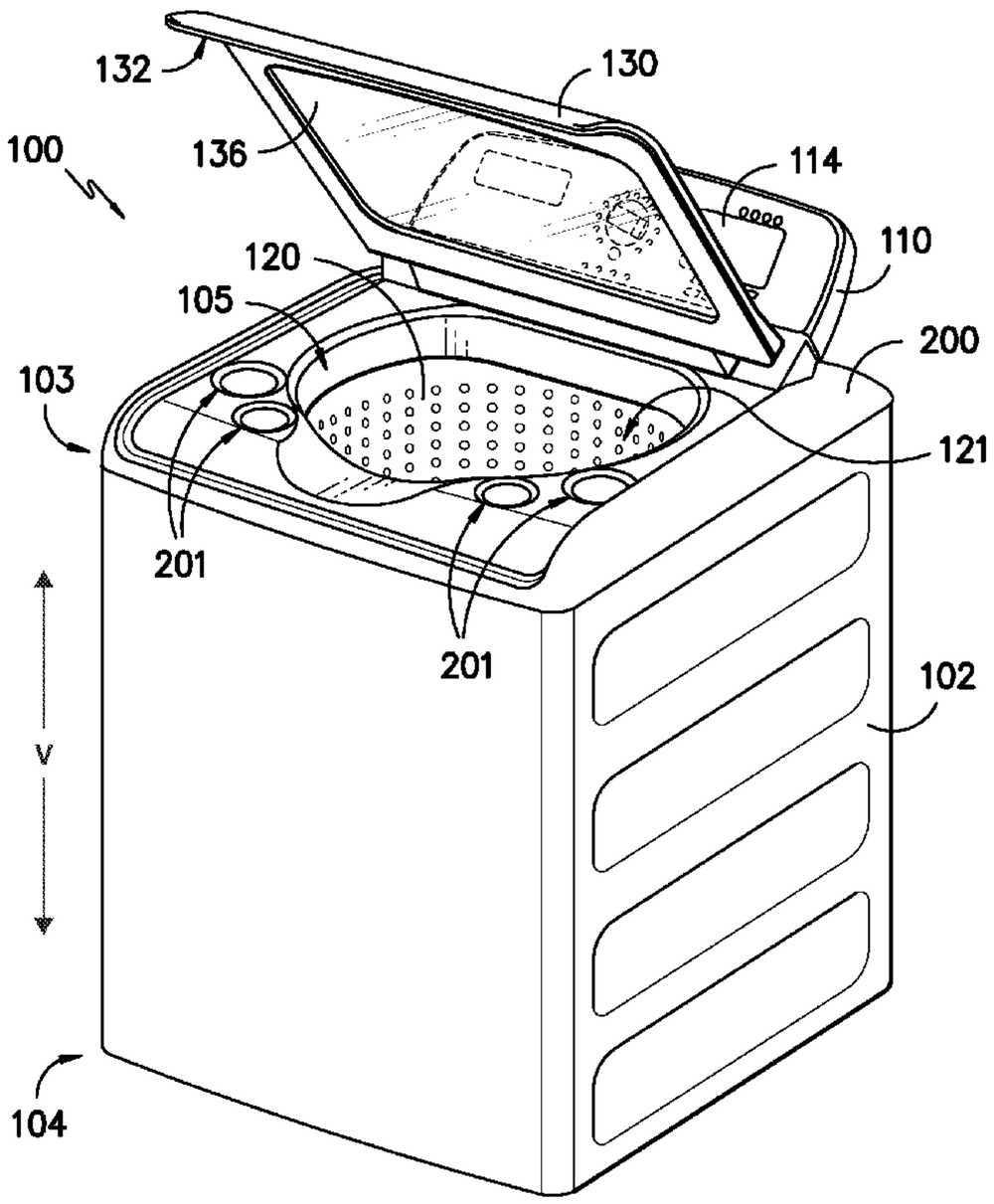
(57) **ABSTRACT**

A fluid additive dispenser is provided. The fluid additive dispenser includes a fluid additive collector that is disposed below containers configured for receipt of fluid additives. The fluid additive collector receives fluid additives from the containers and directs the fluid additives to a spout. By directing the fluid additives to the spout, spilling and leaking of the fluid additives can be reduced, e.g., during operation of a washing machine appliance.

20 Claims, 6 Drawing Sheets



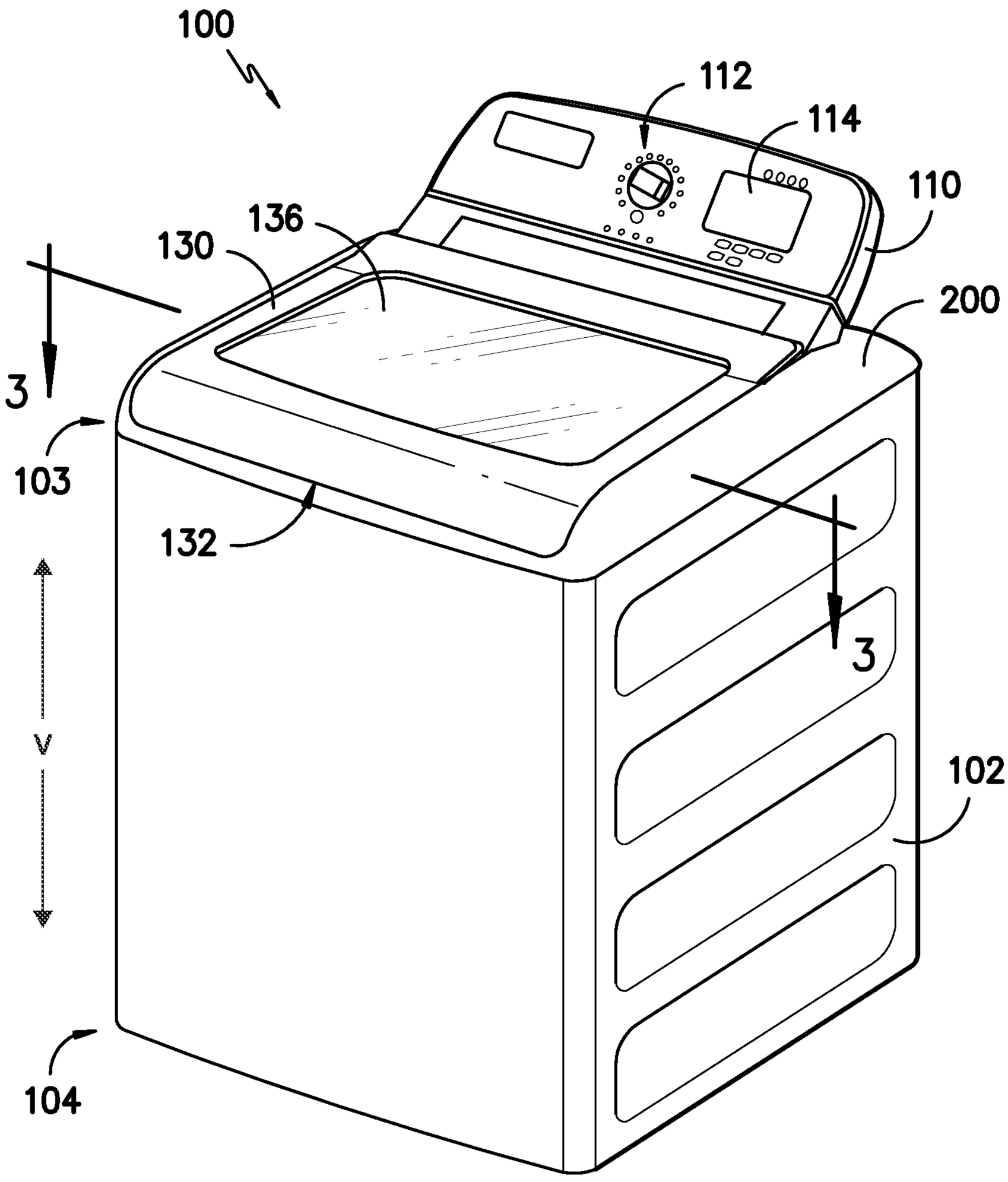


FIG. —1—

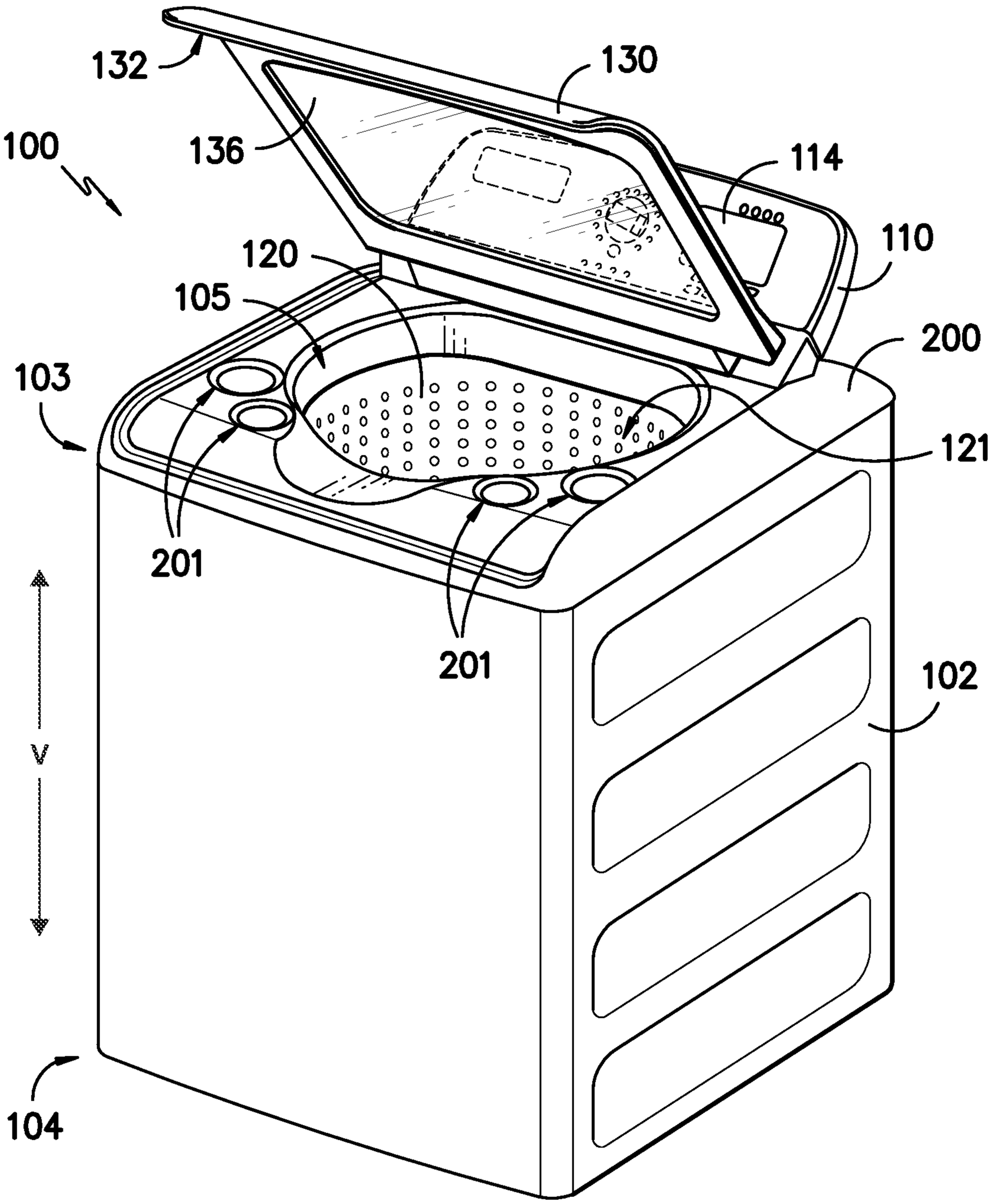


FIG. -2-

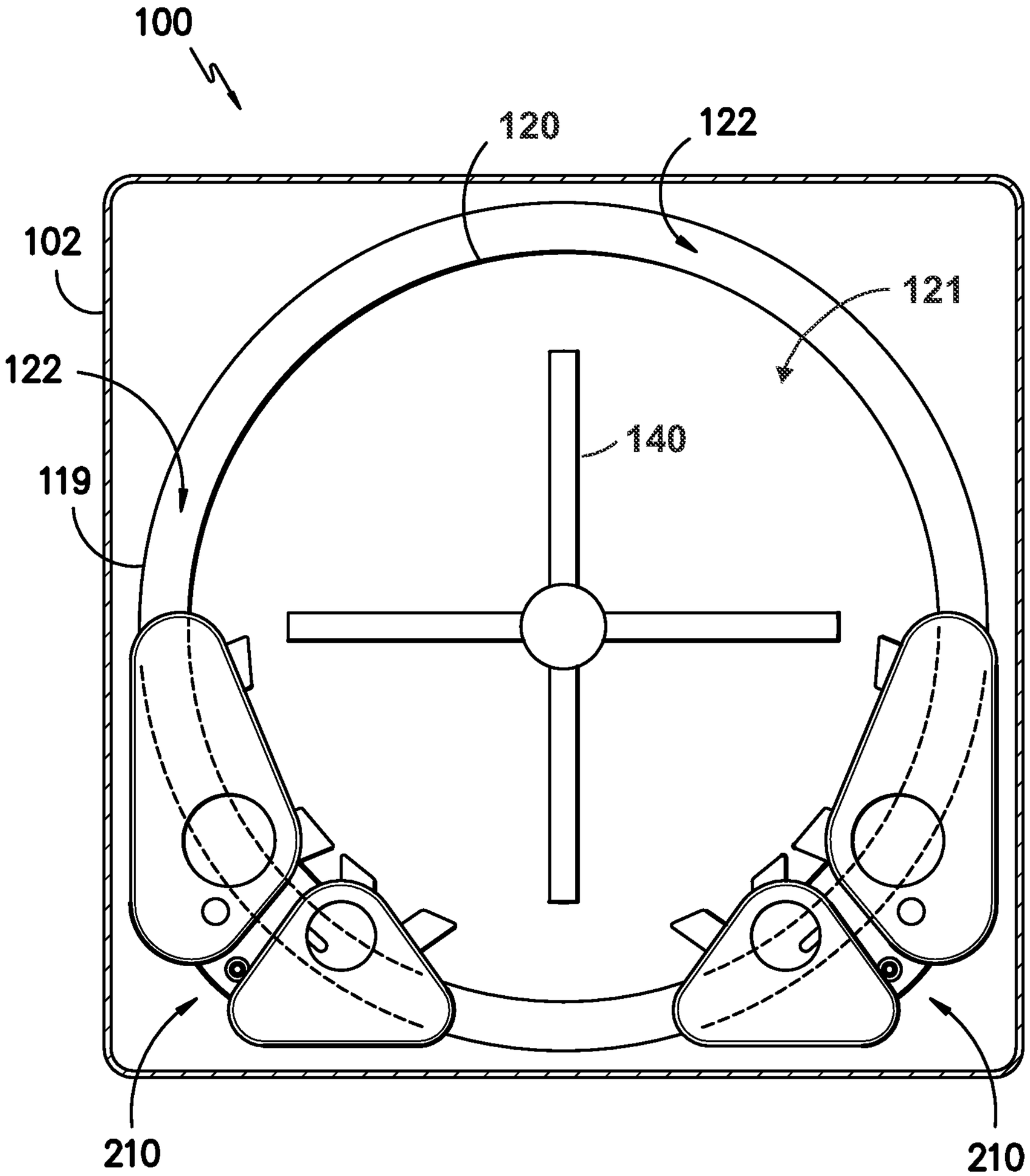


FIG. –3–

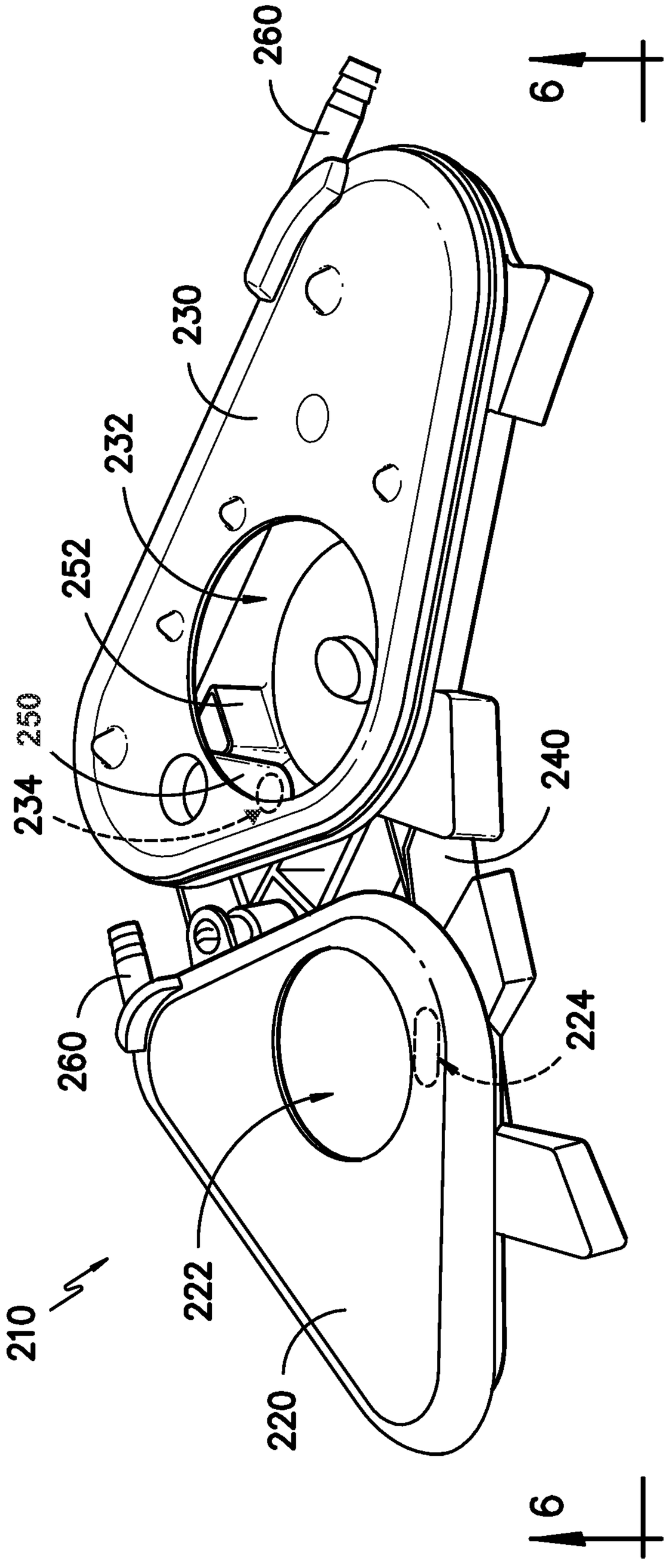


FIG. —4—

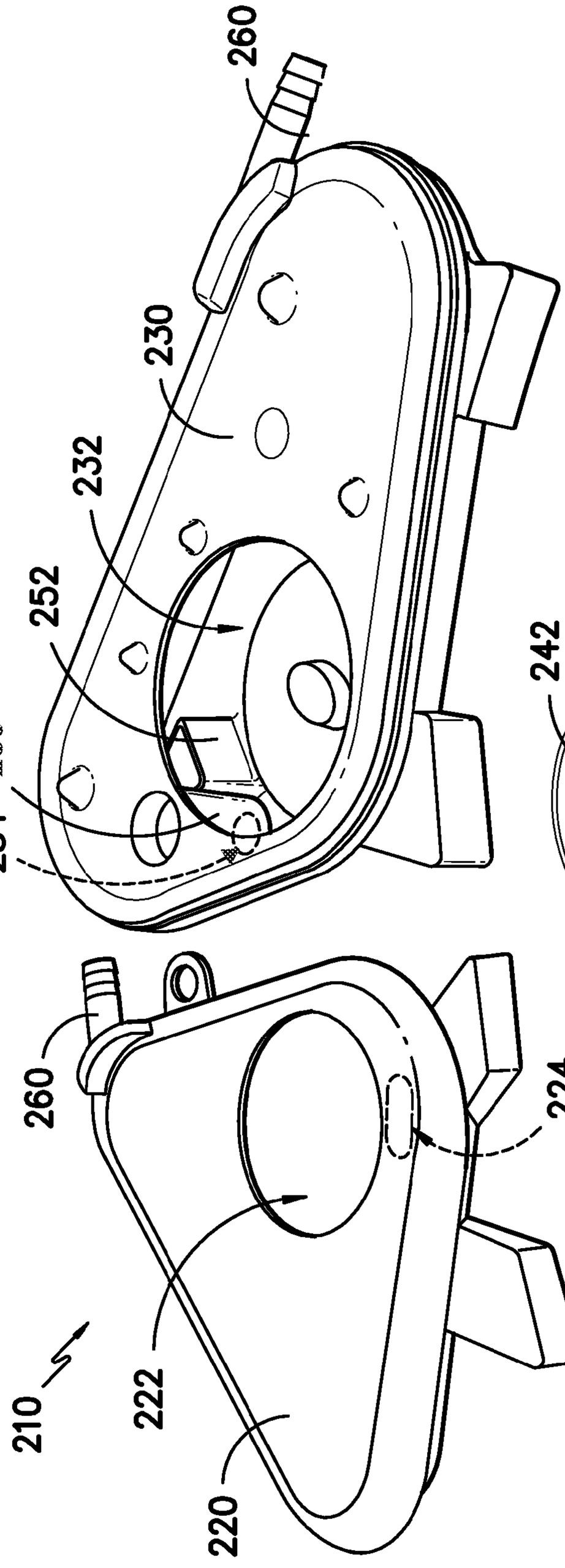


FIG. 5

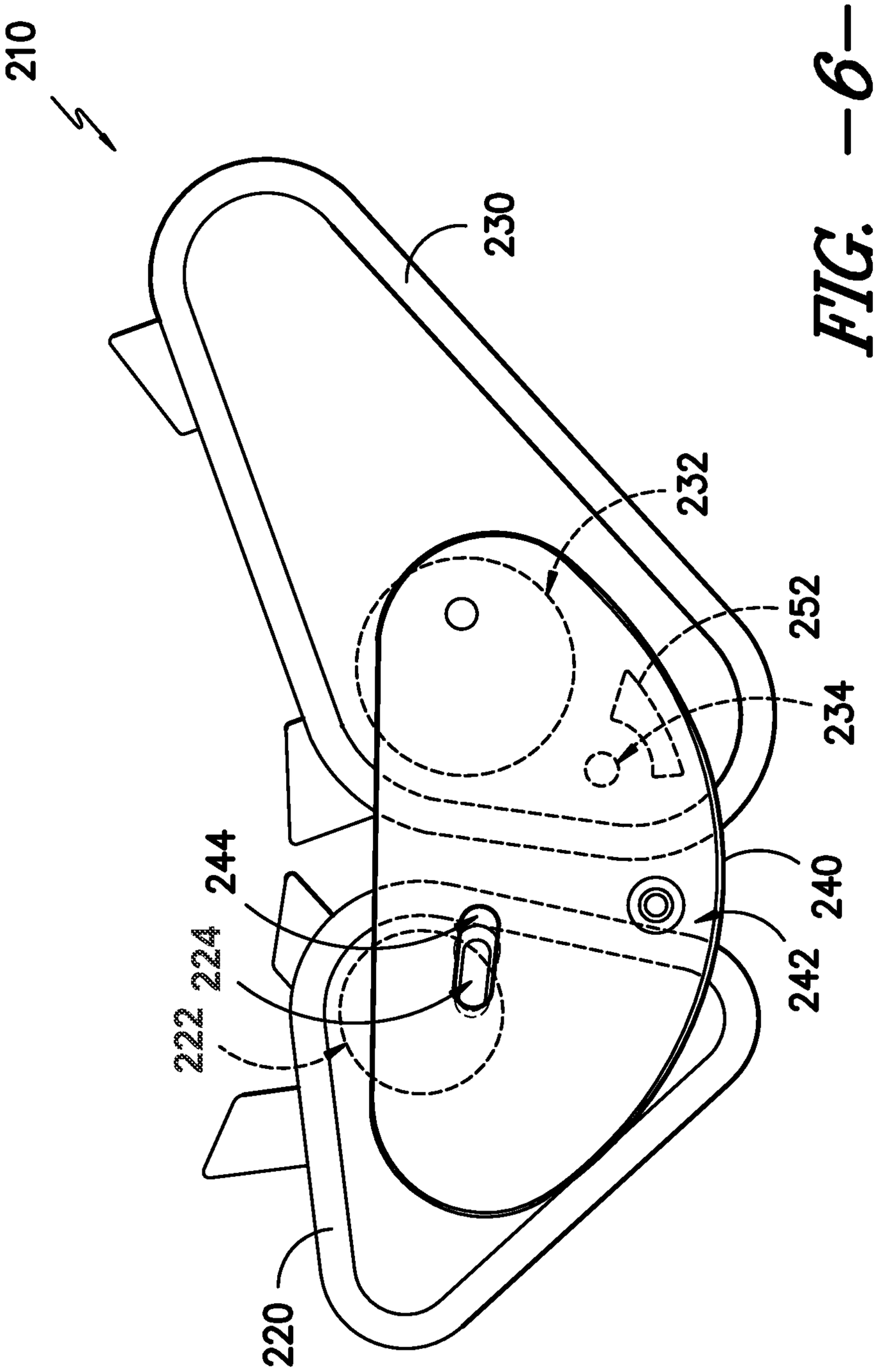


FIG. 6

FLUID ADDITIVE DISPENSER

FIELD OF THE INVENTION

The present subject matter relates generally to fluid additive dispensers for appliances, e.g., washing machine appliances.

BACKGROUND OF THE INVENTION

Washing machine appliances generally form a wash fluid to clean clothing articles disposed within a wash basket of the appliance. The wash fluid can include water and various fluid additives, e.g., detergent, fabric softener, and/or bleach. The fluid additives can be mixed with water within a wash tub of the appliance in order to form the wash fluid.

To introduce fluid additive into the wash tub, a user can manually add the fluid additive to the wash tub and/or the wash basket. For example, after starting the appliance, the user can pour detergent directly into the wash basket. Conversely, certain washing machine appliances include features for receiving fluid additives and dispensing the fluid additives during operation of the appliance. For example, a tray or container mounted to a top panel of a vertical axis washing machine appliance can receive a fluid additive and direct the fluid additive into a wash tub of the appliance. Similarly, a horizontal axis washing machine appliance can include a drawer with a container mounted therein that receives a fluid additive and directs the fluid additive into a wash tub of the appliance.

However, in both vertical and horizontal axis washing machine appliances, a separate tray or container is generally provided for each particular fluid additive. Thus, for example, a washing machine appliance can require a container for detergent, a container for fabric softener, and a container for bleach. Certain design constraints can limit the effectiveness of using multiple containers to direct fluid additives into the wash tub.

In particular, the washing machine appliance's wash basket is typically rotatably mounted within the wash tub. Thus, the wash basket spins within the wash tub during operation of the appliance. The containers described above generally direct fluid additives into a gap defined between the wash tub and the wash basket. However, the location of the gap relative to the containers can change, particularly when the wash basket is spinning and the washing machine is installed out of level. In turn, fluid additive intended to be directed into the gap between the wash tub and wash basket can spill out of the appliance or onto articles in the wash basket when the shape of the gap changes. For example, bleach intended to be directed into the gap can damage clothing articles if the bleach is applied directly onto the articles in the wash basket rather than entering the gap between the wash tub and wash basket.

Accordingly, a washing machine appliance with features for improved handling of fluid additives would be useful. Also, a washing machine appliance with features for hindering spilling and/or leaking of fluid additives would be useful. In particular, a washing machine appliance with features for more reliably directing fluid additives into a gap between a wash basket and a wash tub of the appliance would be useful.

BRIEF DESCRIPTION OF THE INVENTION

The present subject matter provides a fluid additive dispenser. The fluid additive dispenser includes a fluid additive collector that is disposed below containers configured for receipt of fluid additives. The fluid additive collector receives fluid additives from the containers and directs the fluid additives to a spout. By directing the fluid additives to the spout, spilling and leaking of the fluid additives can be reduced, e.g., during operation of a washing machine appliance. Additional aspects and advantages of the invention will be set forth in part in the following description, or may be apparent from the description, or may be learned through practice of the invention.

In a first exemplary embodiment, a washing machine appliance is provided. The washing machine appliance includes a cabinet. A wash tub is mounted within the cabinet and configured for containing fluid during operation of the washing machine appliance. A wash basket is rotatably mounted within the wash tub and configured for receipt of articles for washing. The wash tub and the wash basket define a gap between the wash tub and the wash basket. A fluid additive collector is positioned adjacent the wash tub and the wash basket. The fluid additive collector includes a first container, a second container, and a fluid additive collector. The first container has an inlet and an outlet. The first container is configured for receiving a first fluid additive at the inlet of the first container and directing the first fluid additive to the outlet of the first container. The second container has an entrance and an exit. The second container is configured for receiving a second fluid additive at the entrance of the second container and directing the second fluid additive to the exit of the second container. The fluid additive collector is disposed vertically below the first container and the second container. The fluid additive collector defines a containment volume and a spout. The containment volume of the fluid additive collector is configured for receiving the first fluid additive from the outlet of the first container and the second fluid additive from the exit of the second container. The spout of the fluid additive collector is disposed above the gap of the wash tub and wash basket.

In a second exemplary embodiment, a fluid additive dispenser for a washing machine appliance is provided. The fluid additive dispenser includes a first container having an inlet and an outlet. The first container is configured for receiving a first fluid additive at the inlet of the first container and for directing the first fluid additive to the outlet of the first container. A second container has an entrance and an exit. The second container is configured for receiving a second fluid additive at the entrance of the second container and for directing the second fluid additive to the exit of the second container. A fluid additive collector is disposed vertically below the first container and the second container. The fluid additive collector defines a containment volume and a spout. The containment volume of the fluid additive collector is configured for receiving the first fluid additive from the outlet of the first container and the second fluid additive from the exit of the second container. The containment volume of the fluid collector is also configured for directing the first and second fluid additives to the spout of the fluid additive collector such that the first and second fluid additives exit the containment volume of the fluid additive collector at the spout of the fluid additive collector.

In a third exemplary embodiment, a washing machine appliance is provided. The washing machine appliance includes a cabinet. A wash tub is mounted within the cabinet and configured for containing fluid during operation of the washing machine appliance. A wash basket is rotatably mounted within the wash tub and configured for receipt of articles for washing. The wash tub and the wash basket define a gap between the wash tub and the wash basket. A fluid additive collector is positioned adjacent the wash tub and the

wash basket. The fluid additive collector includes a container and a fluid additive collector. The container has an inlet and an outlet. The container is configured for receiving a fluid additive at the inlet of the container and directing the fluid additive to the outlet of the container. The fluid additive collector is disposed vertically below the container. The fluid additive collector defines a containment volume and a spout. The containment volume of the fluid additive collector is configured for receiving the fluid additive from the outlet of the container. The spout of the fluid additive collector is disposed above the gap of the wash tub and wash basket.

These and other features, aspects and advantages of the present invention will become better understood with reference to the following description and appended claims. The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with the description, serve to explain the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

A full and enabling disclosure of the present invention, including the best mode thereof, directed to one of ordinary skill in the art, is set forth in the specification, which makes reference to the appended figures, in which:

FIG. **1** provides a perspective view of an exemplary washing machine appliance according to an exemplary embodiment of the present subject matter with a door of the washing machine appliance shown in a closed position.

FIG. **2** illustrates a perspective view of the washing machine appliance of FIG. **1** with the door shown in an open position.

FIG. **3** is a top, cross-sectional view of the washing machine appliance of FIG. **1** taken along the **3-3** line shown in FIG. **1**. FIG. **3** shows fluid additive dispensers according to an exemplary embodiment of the present subject matter mounted above a wash basket and a wash tub of the washing machine appliance.

FIG. **4** is a perspective view of the exemplary fluid additive dispenser of FIG. **3**.

FIG. **5** is an exploded view of the exemplary fluid additive dispenser of FIG. **4**.

FIG. **6** illustrates a bottom view of the exemplary fluid additive dispenser of FIG. **3**.

DETAILED DESCRIPTION

Reference now will be made in detail to embodiments of the invention, one or more examples of which are illustrated in the drawings. Each example is provided by way of explanation of the invention, not limitation of the invention. In fact, it will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the scope or spirit of the invention. For instance, features illustrated or described as part of one embodiment can be used with another embodiment to yield a still further embodiment. Thus, it is intended that the present invention covers such modifications and variations as come within the scope of the appended claims and their equivalents.

FIGS. **1** and **2** illustrate an exemplary embodiment of a vertical axis washing machine appliance **100**. In FIG. **1**, a lid or door **130** is shown in a closed position. In FIG. **2**, door **130** is shown in an open position. While described in the context of a specific embodiment of vertical axis washing machine appliance **100**, using the teachings disclosed herein it will be understood that vertical axis washing machine appliance **100** is provided by way of example only. Other washing machine appliances having different configurations, different appearances, and/or different features may also be utilized with the present subject matter as well, e.g., horizontal axis washing machines.

Washing machine appliance **100** has a cabinet **102** that extends between a top **103** and a bottom **104** along a vertical direction V. A wash basket **120** (FIG. **2**) is rotatably mounted within cabinet **102**. A motor (not shown) is in mechanical communication with wash basket **120** in order to selectively rotate wash basket **120** (e.g., during an agitation or a rinse cycle of washing machine appliance **100**). Wash basket **120** defines a wash chamber **121** (FIG. **2**) that is configured for receipt of articles for washing. An agitator or impeller **140** (FIG. **3**) extends from wash basket **120** into wash chamber **121**. Impeller **140** assists agitation of articles disposed within wash chamber **121** during operation of washing machine appliance **100**.

Cabinet **102** of washing machine appliance **100** has a top panel **200**. Top panel **200** defines an opening **105** (FIG. **2**) that permits user access to wash chamber **121** of wash basket **120**. Door **130** is rotatably mounted to top panel **200**. However, alternatively, door **130** may be mounted to cabinet **102** or any outer suitable support. Door **130** selectively rotates between the closed position shown in FIG. **1** and the open position shown in FIG. **2**. In the closed position, door **130** inhibits access to wash chamber **121**. Conversely, in the open position, a user can access wash chamber **121**. A window **136** in door **130** permits viewing of wash chamber **121** when door **130** is in the closed position, e.g., during operation of washing machine appliance **100**. Door **130** also includes a handle **132** that, e.g., a user may pull and/or lift when opening and closing door **130**.

Top panel **200** defines a plurality of holes **201** (FIG. **2**). Plurality of holes **201** are configured for receipt of a plurality of fluid additives, e.g., detergent, fabric softener, and/or bleach. In particular, each one of the plurality of holes **201** is configured for receipt of a particular one of the plurality of fluid additives. Plurality of holes **201** permit the plurality of fluid additives to pass through top panel **200** to a fluid additive dispenser **210** (FIG. **3**) disposed below top panel **200** along the vertical direction V. Fluid additive dispenser **210** is described in greater detail below.

A control panel **110** with a plurality of input selectors **112** (FIG. **1**) extends from top panel **200**. Control panel **110** and input selectors **112** collectively form a user interface input for operator selection of machine cycles and features. A display **114** of control panel **130** indicates selected features, a countdown timer, and/or other items of interest to appliance users.

Operation of washing machine appliance **100** is controlled by a controller or processing device (not shown) that is operatively coupled to control panel **110** for user manipulation to select washing machine cycles and features. In response to user manipulation of control panel **110**, the controller operates the various components of washing machine appliance **100** to execute selected machine cycles and features.

In an illustrative embodiment, laundry items are loaded into wash chamber **121** through opening **105**, and washing operation is initiated through operator manipulation of input selectors **112**. Wash basket **120** (or wash tub **119** shown in FIG. **3**) is filled with water and detergent to form a wash fluid. One or more valves (not shown) can be controlled by washing machine appliance **100** to provide for filling wash basket **120** to the appropriate level for the amount of articles being washed. Once wash basket **120** is properly filled with fluid,

the contents of wash chamber **121** are agitated (e.g., with impeller **140** shown in FIG. **3**) for cleansing of laundry items in wash basket **120**.

After the agitation phase of the wash cycle is completed, wash basket **120** is drained. Laundry articles can then be rinsed by again adding fluid to wash basket **120**, depending on the particulars of the cleaning cycle selected by a user, impeller **140** may again provide agitation within wash chamber **121**. One or more spin cycles may also be used. In particular, a spin cycle may be applied after the wash cycle and/or after the rinse cycle in order to wring wash fluid from the articles being washed. During a spin cycle, wash basket **120** is rotated at relatively high speeds. After articles disposed in wash basket **120** are cleaned and/or washed, the user can remove the articles from wash basket **120**, e.g., by reaching into wash chamber **121** through opening **105**.

FIG. **3** is a top, cross-sectional view of washing machine appliance **100** taken along the **3-3** line shown in FIG. **1**. An exemplary embodiment of fluid additive dispenser **210** is shown mounted above wash basket **120** and a wash tub **119** of washing machine appliance **100**. As may be seen in FIG. **3**, wash basket **120** is mounted within wash tub **119**. In particular, wash basket **120** is rotatably mounted within wash tub **119** such that wash basket **120** is spaced apart from wash tub **119**. In turn, wash tub **119** is mounted to cabinet **102**, e.g., using springs or dampers (not shown) in order to reduce vibration of washing machine appliance **100** during rotation of wash basket **120**. As will be understood by those skilled in the art, such dampers or springs permit wash tub **119** and wash basket **120** to displace or shift within cabinet **102**. As an example, wash tub **119** and wash basket **120** can displace or shift within cabinet **102** due to an imbalance in the distribution of articles within wash basket **120** or due to washing machine appliance **100** operating in an out-of-level configuration.

Wash tub **119** is configured for containing wash and rinse fluids during operation of washing machine appliance **100** described above. Wash and rinse fluids disposed within wash tub **119** can be used to clean articles disposed in wash basket **120**. Wash and rinse fluids can pass between wash basket **120** and wash tub **119** through a plurality of apertures defined by wash basket **120**, e.g., during the wash and/or spin cycles described above.

Fluid additive dispensers **210** are mounted above wash tub **119** and wash basket **120** (e.g., along the vertical direction V shown in FIG. **1**). More particularly, fluid additive dispensers **210** are mounted above a gap **122** (e.g., along the vertical direction V shown in FIG. **1**). Gap **122** is defined between wash tub **119** and wash basket **120**. Fluid additive dispensers **210** are configured for receipt of fluid additives from plurality of holes **201** (FIG. **2**). Fluid additive dispensers **210** are also configured for directing the fluid additives into gap **122**. For example, fluid additive dispensers **210** may direct detergent into gap **122** prior to a wash cycle of washing machine appliance **100**. Similarly, fluid additive dispensers **210** may direct fabric softener into gap **122** prior to a rinse cycle of washing machine appliance **100**.

As will be understood by those skilled in the art, gap **122** changes location within cabinet **102**, e.g., relative to fluid additive dispensers **210** during operation of washing machine appliance **100**. In particular, gap **122** will shift or displace when wash tub **119** and wash basket **120** shift or displace within cabinet **102** during rotation of wash basket **120** described above.

However, the range of travel of the wash tub **119** and wash basket **120** can be limited by the dampers or springs that mount the wash tub **119** to cabinet **102**. Displacement of gap **122** is similarly limited by the dampers or springs, e.g., during operation of the washing machine appliance **100**. Fluid additive dispenser **210** is disposed directly above (e.g., along the vertical direction V shown in FIG. **1**) a location where gap **122** does not or is most likely to not displace away from during operation of washing machine appliance **100**. In such a configuration, fluid additives are more likely to be directed into gap **122** rather than into wash basket **120** or out of wash tub **119**. By positioning fluid additive dispenser **210** in such a manner, potential damage to articles in wash basket **120** due to misdirected fluid additives can be avoided and spills of fluid additives can also be limited.

FIG. **4** is a perspective view of one of fluid additive dispensers **210**. FIG. **5** is an exploded view of such fluid additive dispenser **210**. Fluid additive dispenser **210** may be constructed of any suitable material. For example, fluid additive dispenser **210** may be constructed of a plastic, a metal, or a combination of materials.

As may be seen in FIGS. **4** and **5**, fluid additive dispenser **210** includes a first container or cup **220** and a second container or cup **230**. First container **220** is configured for receipt of a first fluid additive, e.g., detergent. More particularly, first container **220** defines an inlet **222** that is aligned with and disposed below one of plurality of holes **201** of top panel **200** (FIG. **2**). As an example, a user can pour detergent through the one of plurality of holes **201** such that the detergent passes into first container **220** through inlet **222**. First container **220** also includes a water inlet **260**. Water inlet **260** is in fluid communication with a water source (not shown), e.g., using a hose or other conduit. Water inlet **260** directs a selective flow of water into first container **220**.

Second container **230** is configured for receipt of a second fluid additive, e.g., fabric softener. More particularly, second container **230** defines an entrance **232** that is aligned with another one of plurality of holes **201** of top panel **200**. As an example, a user can pour fabric softener through the one of plurality of holes **201** such that the fabric softener passes into second container **230** through entrance **232**. Second container **230** also includes a water inlet **260**. Like first container **220**, water inlet **260** of second container **230** is in fluid communication with the water source, and water inlet **260** of second container **230** directs a selective flow of water into second container **230**.

Fluid additive dispenser **210** also includes a fluid additive collector **240** disposed vertically below first and second containers **220** and **230** (e.g., along the vertical direction V shown in FIG. **1**). Collector **240** defines a containment volume **242** and a spout **244** (FIG. **5**). Collector **240** is configured for receipt of first and second fluid additives from first and second containers **220** and **230** respectively as discussed in greater detail below.

First and second containers **220** and **230** can be mounted to collector **240**. For example, first and second containers **220** and **230** may be secured to collector **240** using snap-fit fasteners, interference-fit fasteners, screws, glue, or combinations thereof.

As may be seen in FIGS. **5** and **6**, first container **220** defines an outlet **224**, and second container **230** defines an exit **234**. First container **220** directs first fluid additive contained within first container **220** to outlet **224**. At outlet **224**, first fluid additive exits first container **220** and enters containment volume **242** of collector **240**. Similarly, second container **230** directs second fluid additive contained within second container **230** to exit **234**. At exit **234**, second fluid additive exits second container **230** and enters containment volume **242** of collector **240**. Thus, collector **240** receives first and second fluid additives from outlet **224** of first container **220** and exit **234** of second container **230** respectively.

As best seen in FIG. **5**, first and/or second fluid additives disposed within containment volume **242** of collector **240** are directed out of collector **240** through spout **244**. Spout **244** can direct such fluid additives into gap **122** (FIG. **3**). Thus, spout **244** may be disposed vertically above gap **122** (e.g., along the vertical direction V shown in FIG. **1**) such that gravity urges such fluid additives out of containment volume **242** through spout **244**.

FIG. **6** illustrates a bottom view of fluid additive dispenser **210**. As shown in FIG. **6**, outlet **224** is configured such that gravity urges first fluid additive within first container **220** towards outlet **224** where such fluid additive can flow out of first container **220** through outlet **224**. Further, outlet **224** is disposed above and in-line with spout **244** of collector **240**. Thus, first fluid additive exiting first container **220** through outlet **224** can flow through containment volume **242** directly into spout **244**.

Conversely, turning back to FIGS. **4** and **5**, second container **230** includes a siphon valve **250** and an overflow or flow outlet **252**. Siphon valve **250** regulates the flow of second fluid additive out of exit **234** as will be understood by those skilled in the art. As an example, a flow of water into second container **230** can be initiated through water inlet **260**. Such water can mix with second fluid additive within second container **230** and fill second container **230** to a particular level until siphon valve **230** forms a siphon and drains second container **230** of the water and second fluid additive solution. Flow outlet **252** is configured for directing liquid from second container **230** to collector **240**. In particular, flow outlet **252** prevents second container **230** from filling with more than a particular volume of liquid. Flow outlet **252** is provided so that if siphon valve **250** fails operate second container **230** will not overflow in an uncontrolled manner.

As an example, prior to starting washing machine appliance **100**, a user can pour detergent through one of plurality of holes **201** (FIG. **2**) into inlet **222** of first container **220**. First container **220** will direct such detergent to outlet **224** of first container **220**. In addition, water from water inlet **260** can be directed into first container **220** in order to rinse first container **220** of detergent and assist with forming wash fluid.

Similarly, in another example, prior to starting washing machine appliance **100**, a user can pour fabric softener through another one of plurality of holes **201** (FIG. **2**) into entrance **232** of second container **230**. Subsequently, e.g., during a rinse cycle of washing machine appliance **100**, water from water inlet **260** can be directed into second container **230** where the water can mix with the fabric softener. Eventually, sufficient liquid (i.e., fabric softener and water) will fill second container **230** to form a siphon in siphon valve **250**. At that time, the water and fabric softener solution will be drawn by siphon valve **250** to exit **234** of second container **230**.

Turning now to FIG. **5**, in both examples described above, the detergent and fabric softener will be directed into containment volume **242** of collector **240**. In turn, collector **240** will direct such liquid to spout **244** where such liquid flows into gap **122** (FIG. **3**) between wash tub **119** and wash basket **120**. In particular, collector **240** permits liquids from first and second containers **220** and **230** to be directed to the same portion of gap **122**. Conversely, outlet **224** and exit **234** would direct liquid to different portions of gap **122** without collector **240** thereby increasing the potential for spills and/or other inaccuracies in fluid additive dispensing.

As described above, gap **122** can change location during operation of washing machine appliance **100**. By positioning spout **244** of collector **244** above a portion of gap **122** that, e.g., is unlikely to be affected by rotation of wash basket **120** and movement of gap **122**, collector **240** can improve delivery of fluid additives to gap **122** by decreasing spills of fluid additive out of wash tub **119** and/or into wash basket **120**.

It should be understood that the fluid additive dispenser **210** described above is provided by way of example only. For example, in alternative exemplary embodiments, fluid additive dispenser **210** may include additional containers, e.g., one, two, or more additional containers. Also, in FIG. **3**, only two fluid additive dispensers **210** are mounted to washing machine appliance **100**. However, washing machine appliance **100** may include additional fluid additive dispensers, e.g., one, two, or more additional fluid additive dispensers, e.g., mounted to a back of top panel **200** rather than a front of top panel **200** as shown in FIG. **2**.

In addition, it should be understood that the fluid additive dispenser **210** can receive fluid additives from bulk fluid additive dispensing system (not shown). For example, reservoirs may be disposed within cabinet **102**. Further, the reservoirs may be sized such that a volume of fluid additive sufficient for a plurality or multitude of wash cycles of washing machine appliance **100** (e.g., five, ten, twenty, fifty, or any other suitable number of wash cycles) may fill the reservoirs. Thus, for example, a user can fill each one of the reservoirs with a particular fluid additive and operate washing machine appliance **100** for a plurality of wash cycles without refilling the reservoirs with fluid additives. A pump (not shown) may selectively deliver the fluid additives from the reservoirs to the first and second containers **220** and **230** respectively.

This written description uses examples to disclose the invention, including the best mode, and also to enable any person skilled in the art to practice the invention, including making and using any devices or systems and performing any incorporated methods. The patentable scope of the invention is defined by the claims, and may include other examples that occur to those skilled in the art. Such other examples are intended to be within the scope of the claims if they include structural elements that do not differ from the literal language of the claims, or if they include equivalent structural elements with insubstantial differences from the literal languages of the claims.

What is claimed is:

1. A vertical axis washing machine appliance comprising:

a cabinet having a top panel that defines a plurality of holes at a front portion of the top panel;

a wash tub mounted within said cabinet and configured for containing fluid during operation of the washing machine appliance;

a wash basket rotatably mounted within said wash tub such that said wash basket is rotatable about a substantially vertical axis, said wash basket configured for receipt of articles for washing, said wash tub and said wash basket defining a gap between said wash tub and said wash basket;

a fluid additive dispenser positioned below the top panel of said cabinet and adjacent said wash tub and said wash basket, said fluid additive dispenser comprising:

a first container having an inlet and an outlet, said first container configured for receiving a first fluid additive at the inlet of said first container and directing the first fluid additive to the outlet of said first container;

a second container having an entrance and an exit, said second container configured for receiving a second fluid additive at the entrance of said second container and directing the second fluid additive to the exit of said second container; and

a fluid additive collector disposed vertically below said first container and said second container, said fluid additive collector defining a containment volume and

a spout, the containment volume of said fluid additive collector positioned for receiving the first fluid additive from the outlet of said first container and the second fluid additive from the exit of said second container, the spout of said fluid additive collector disposed above the gap of said wash tub and wash basket, the spout of said fluid additive collector also positioned such that said wash basket is not positioned directly below the spout of said fluid additive collector, the spout of said fluid additive collector positioned such that the spout of said fluid additive collector is not disposed directly below the exit of said second container;

wherein the inlet of said first container and the entrance of said second container are positioned at a respective one of the plurality of holes of the top panel.

2. The washing machine appliance of claim **1**, wherein the spout of said fluid additive collector is a single opening.

3. The washing machine appliance of claim **1**, wherein said top panel of said cabinet defines a first hole and a second hole, the first hole of said top panel aligned with the inlet of said first container, the second hole of said top panel aligned with the entrance of said second container.

4. The washing machine appliance of claim **1**, wherein said first and second containers are mounted to said fluid additive collector.

5. The washing machine appliance of claim **1**, wherein said first and second containers are mounted to said fluid additive collector with snap-fit fasteners.

6. The washing machine appliance of claim **1**, wherein the outlet of said first container is positioned directly above the spout of said fluid additive collector.

7. The washing machine appliance of claim **1**, further comprising a siphon valve mounted to said second container and in fluid communication with the exit of said second container in order to regulate the flow of second fluid additive out of the exit of said second container.

8. The washing machine appliance of claim **1**, further comprising a flow valve mounted to said second container and configured for directing second fluid additive from within said second container to the containment volume of said fluid additive collector when the second fluid additive fills said second container above a particular fluid level.

9. The washing machine appliance of claim I, further comprising a first water inlet mounted to said first container and configured for directing water into said first container and a second water inlet mounted to said second container and configured for directing water into said second container.

10. The washing machine appliance of claim **1**, wherein said first and second containers and said fluid additive collector are constructed of plastic.

11. The washing machine appliance of claim **1**, wherein the first and second fluid additives only flow into the gap of said wash tub and wash basket via the spout of said fluid additive collector.

12. A fluid additive dispenser for a vertical axis washing machine appliance, the fluid additive dispenser defining a vertical direction, the fluid additive dispenser comprising:

a first container having an inlet and an outlet, said first container configured for receiving a first fluid additive at the inlet of said first container and for directing the first fluid additive to the outlet of said first container;

a second container having an entrance and an exit, said second container configured for receiving a second fluid additive at the entrance of said second container and for directing the second fluid additive to the exit of said second container; and

a fluid additive collector disposed below said first container and said second container along the vertical direction, said fluid additive collector defining a containment volume and a spout, the containment volume of said fluid additive collector positioned directly below the outlet of said first container and the exit of said second container such that the containment volume of said fluid additive collector is positioned for receiving the first fluid additive from the outlet of said first container and the second fluid additive from the exit of said second container, the containment volume of said fluid collector also configured for directing the first and second fluid additives to the spout of said fluid additive collector such that the first and second fluid additives exit the containment volume of said fluid additive collector at the spout of said fluid additive collector, the spout of said fluid additive collector positioned such that the spout of said fluid additive collector is not disposed directly below the exit of said second container;

wherein said first container, said second container and said fluid additive collector are discrete from one another.

13. The fluid additive dispenser of claim **12**, wherein said first and second containers are mounted to said fluid additive collector.

14. The fluid additive dispenser of claim **12**, wherein said first and second containers are mounted to said fluid additive collector with snap-fit fasteners.

15. The fluid additive dispenser of claim **12**, wherein the outlet of said first container is positioned directly, vertically above the spout of said fluid additive collector.

16. The fluid additive dispenser of claim **12**, further comprising a siphon valve mounted to said second container and in fluid communication with the exit of said second container in order to regulate the flow of second fluid additive out of the exit of said second container.

17. The fluid additive dispenser of claim **12**, further comprising a flow valve mounted to said second container and configured for directing second fluid additive from within said second container to the containment volume of said fluid additive collector when the second fluid additive fills said second container above a particular fluid level.

18. The fluid additive dispenser of claim **12**, further comprising a first water inlet mounted to said first container and configured for directing water into said first container and a second water inlet mounted to said second container and configured for directing water into said second container.

19. The fluid additive dispenser of claim **12**, wherein said first and second containers and said fluid additive collector are constructed of plastic.

20. A vertical axis washing machine appliance comprising:

a cabinet having a top panel that defines a hole at a front portion of the top panel;

a wash tub mounted within said cabinet and configured for containing fluid during operation of the washing machine appliance;

a wash basket rotatable mounted within said wash tub such that said wash basket is rotatable about a substantially vertical axis, the wash basket configured for receipt of articles for washing, said wash tub and said wash basket defining a gap between said wash tub and said wash basket;

a fluid additive dispenser positioned below the top panel of said cabinet and adjacent said wash tub and said wash basket, said fluid additive dispenser comprising:

a container having an inlet and an outlet, said container configured for receiving a fluid additive at the inlet of

said container and directing the fluid additive to the outlet of said container; and

a fluid additive collector disposed vertically below said container, said fluid additive collector defining a containment volume and a spout, the containment volume of said fluid additive collector positioned for receiving the fluid additive from the outlet of said container, the spout of said fluid additive collector disposed above the gap of said wash tub and wash basket, the spout of said fluid additive collector also positioned such that said wash basket is not positioned directly below the spout of said fluid additive collector, the spout of said fluid additive collector positioned such that the spout of said fluid additive collector is not disposed directly below the outlet of the container, a bottom wall of said fluid additive collector extending around the spout of said fluid additive collector, the bottom wall of said fluid additive collector sloped towards the spout of said fluid additive collector;

wherein the inlet of said container is positioned at the hole of the top panel.

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UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 9,027,370 B2
APPLICATION NO. : 13/490939
DATED : May 12, 2015
INVENTOR(S) : Alexander Boris Leibman

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

In Column 10, Line 57, Claim 20:
"basket rotatable" should read "basket rotatably".

Signed and Sealed this
Tenth Day of July, 2018

Andrei Iancu
Director of the United States Patent and Trademark Office